

## ELECTRIC CARS ARE DIFFERENT SHADES OF GREEN AROUND THE GLOBE

**Grid powered electric cars have carbon emissions four times greater in countries with coal dominated power generation than in those with low carbon power supplies, according to new analysis by Shrink That Footprint.**

LONDON, 7 February, 2013 – According to analysis by Shrink That Footprint the carbon emissions of grid powered electric cars in countries with coal based generation are no different to average petrol vehicles, while in countries with low carbon electricity they are less than half those of modern hybrids. The scale of this variation implies that the climate benefits of going electric are not evenly shared around the globe.

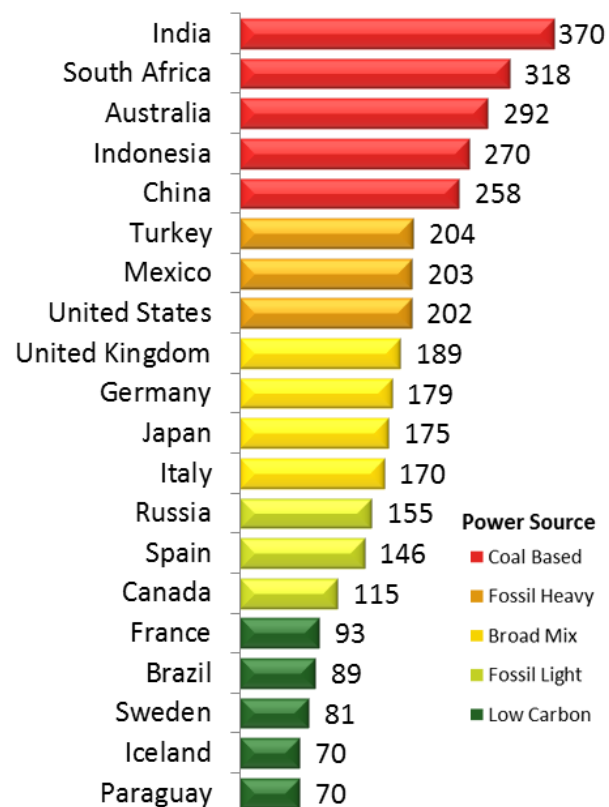
The new report, [Shades of Green: Electric Cars' Carbon Emissions Around the Globe](#) assesses the climate impact of grid powered electric vehicles in twenty of the world's major countries, and how those emissions compare to petrol vehicles. The analysis includes the full scope of electricity, fuel and vehicle manufacturing emissions.

Paraguay, which produces five times more hydroelectricity than it uses, edges out Iceland as the greenest place on earth to drive an electric car. Electric driving in Paraguay results in emissions equivalent to a 220 MPG<sub>US</sub> (1 L/100 km) petrol vehicle.

In India and China, where power generation is largely coal based, grid powered electric cars produce emissions similar to traditional petrol vehicles. In India a fully electric vehicle causes emissions comparable to a 20 MPG<sub>US</sub> (12 L/100 km) petrol car. In China, where power is less carbon intensive, it is 30 MPG<sub>US</sub> (9 L/100 km).

In the US the shale gas boom is rapidly lowering electric driving emissions by displacing coal generation. Based on data from 2009, electric vehicle emissions are equivalent to gasoline cars with a fuel economy of 40 MPG<sub>US</sub> (9 L/100 km), similar to a modern petrol hybrid. But given that the carbon intensity of electricity fell 15% in the decade to 2009, and the dash for gas has continued since, electric vehicle emissions are likely to outperform gasoline hybrids nationally in the near term, as they already do in a number of states.

Electric Car Emissions by Country : g CO<sub>2</sub>e/km



Note: figures include vehicle manufacturing emissions of 70 g CO<sub>2</sub>e/km as well as emissions from power production, fuel production and grid losses.

In the UK, Germany, Japan and Italy the broad fuel mix of natural gas, coal, nuclear and hydro means an electric vehicle's carbon footprint is similar to the best comparable petrol hybrids, or most efficient diesels. In the UK this equals a petrol fuel economy of 44 MPG<sub>US</sub> (5.4 L/100 km), while in Germany this rises to 47 MPG<sub>US</sub> (5.0 L/100 km)

In Canada and France, where hydroelectricity and nuclear energy dominate, the petrol emission equivalences are 87 MPG<sub>US</sub> (2.7 L/100 km) and 123 MPG<sub>US</sub> (1.9 L/100 km) respectively. In these countries electric cars have the potential to more than halve total vehicle emissions. Manufacturing accounts for around two thirds of electric car emissions in each of these countries, highlighting its importance in low carbon vehicles.

Lindsay Wilson, lead author of the analysis, commented:

“This work highlights just how much the climate benefit of going electric varies around the world. To achieve their carbon reduction potential electric cars need to be deployed in tandem with low carbon electricity.”

For more details, including the breakdown of electricity emissions, their petrol equivalence, sensitivities to assumptions and diesel emissions, see the [full analysis](#).

For further information:

**Lindsay Wilson**

Shrink That Footprint

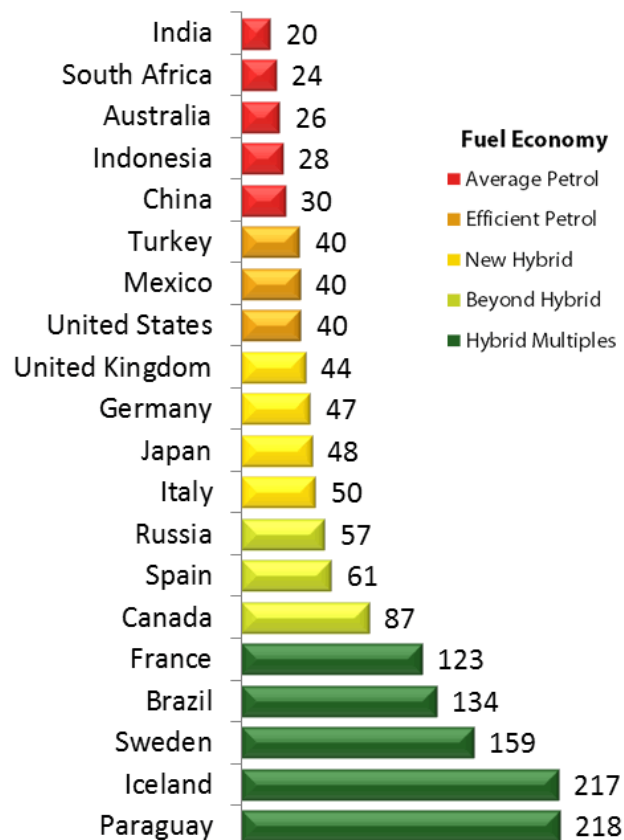
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**ABOUT SHRINK THAT FOOTPRINT**

Shrink That Footprint is an independent research group focussed on helping individuals reduce their climate impact. We provide people with information to help them understand, calculate and reduce their carbon footprints. Our key research areas are housing, travel, food, product and service emissions.

**Emissions Equivalent Petrol Vehicle: MPG<sub>US</sub>**



Note: emissions calculation included vehicle manufacturing, fuel combustion and fuel production. Manufacturing emissions assumed to be 40 g CO<sub>2</sub>e/km for petrol cars  Full report: <http://shrinkthatfootprint.com/electric-car-emissions>